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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,265	01/06/2005	Kazuyasu Nishikawa	261268US2PCT	5085
22850	7590	04/04/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			MATISIAK, JENNIFER E	
			ART UNIT	PAPER NUMBER
			2811	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/520,265	NISHIKAWA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jennifer Matisiak	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10112005</u> .  | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 6 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the limitation: "an inductor provided with a conductor interconnection; and a shield that is provided with a conductor interconnection" is confusing language since it is unclear whether applicant is disclosing one or two separate conductor interconnections. Additionally, the limitation "with opening a portion of the conductor interconnection" is confusing language; the scope of the claim is indefinite because it is unclear whether applicant is disclosing an opening in a portion of the conductor interconnection or opening a portion of the conductor interconnection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 6, 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Staudinger et al. (US 5416356), hereinafter Staudinger.

Regarding claim 6, Staudinger discloses a semiconductor device (Fig. 4, for example) comprising: an inductor (21) provided with a conductor interconnection (33) formed spirally on a semiconductor substrate (29 of Fig. 2); and a shield (42) that is provided with a conductor interconnection (33) in a ring having a continuous configuration provided along an outer periphery of the spiral pattern of the inductor with opening a portion (44) of the conductor interconnection, and that is electrically connected to ground potential (col 8, lines 30-33).

Regarding claim 7, Staudinger discloses a semiconductor device wherein an interconnection width of the shield is more than a size of a spacing of the spiral pattern of the inductor, and is less than a radius of the spiral pattern of the inductor (Fig. 4).

Regarding claim 9, Staudinger discloses a semiconductor device (Fig. 2) further comprising: a plurality of interconnection layers (14, 15) formed on the semiconductor substrate (29), wherein the inductor is formed in any one of these interconnection layers (15); and the shield is formed in a different interconnection layer (14) from the interconnection layer in which the inductor is formed.

4. Claims 6, 8 and 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Shitara et al. (US 6661078), hereinafter Shitara.

Regarding claim 6, Shitara discloses a semiconductor device (Fig. 1, for example) comprising: an inductor provided with a conductor interconnection (1) formed spirally on a semiconductor substrate (4); and a shield that is provided with a conductor interconnection (9) in a ring having a continuous configuration provided along an outer periphery of the spiral pattern of the inductor with opening a portion (11 of Fig. 4) of the conductor interconnection, and that is electrically connected to ground potential (col 4, lines 5-9).

Regarding claim 8, Shitara discloses a semiconductor device wherein a distance between the shield and an outer border of the interconnection of the inductor is equal to a spacing of the spiral pattern of the inductor (Fig. 1).

Regarding claim 11, Shitara discloses a semiconductor device (Fig. 1) comprising: an inductor provided with a conductor interconnection (1) formed spirally on a semiconductor substrate (4); and a shield that is provided with a conductor interconnection (9) in a ring having a continuous configuration provided along an inner periphery of the spiral pattern of the inductor with opening a portion (11 of Fig. 4) of the conductor interconnection, and that is electrically connected to ground potential (col 4, lines 5-9).

Regarding claim 11, Shitara discloses a semiconductor device (Fig. 1) wherein an interconnection (9) width of the shield is less than a size of an interconnection (1) width of the inductor.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Matisiak whose telephone number is 571-272-2639. The examiner can normally be reached on Business Days 9:30a-6:30p EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 517-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JEM



DOUGLAS W. OWENS  
PRIMARY EXAMINER